

Structuring Series

7/20/2021

Rich Park

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Performance Trust Video Guide

- 7/9/2021- June CMO Issuance Conventional
<https://vimeo.com/573458505/3792b91629>
- 7/19/2021 – Agency MBS Weekly
<https://vimeo.com/576544026/a7b24b89b9>
- 7/20/2021 – Structuring Series 3.0% PAC/SUP

Upcoming

- 7/22/2021 – June CMO Issuance Ginnie

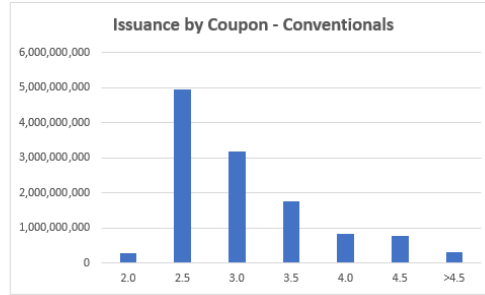
* Contact rpark@performancetrust.com or your Sales Team for Slides

Structuring Series

- Structuring Mechanics – Thought Process behind Structures
- Valuing each component: Pool, CMO, Support, Deriv Valuation
- Arb, Hedging
- **Interactive approach**

PAC/SUP off Generic 3.0 Collateral

| Conventionals | | |
|---------------|---------------|---------|
| Coupon | Size | Percent |
| 2.0 | 265,492,926 | 2% |
| 2.5 | 4,957,335,616 | 41% |
| 3.0 | 3,186,862,861 | 26% |
| 3.5 | 1,763,497,651 | 15% |
| 4.0 | 835,651,970 | 7% |
| 4.5 | 782,617,644 | 6% |
| >4.5 | 318,585,435 | 3% |



June CMO Issuance

- 25% of the Deals issued in June were structured off Conventional 3.0's
- ~1.5 billion of these Conventional 3.0s were PAC/SUP deals

Driver behind these deals:

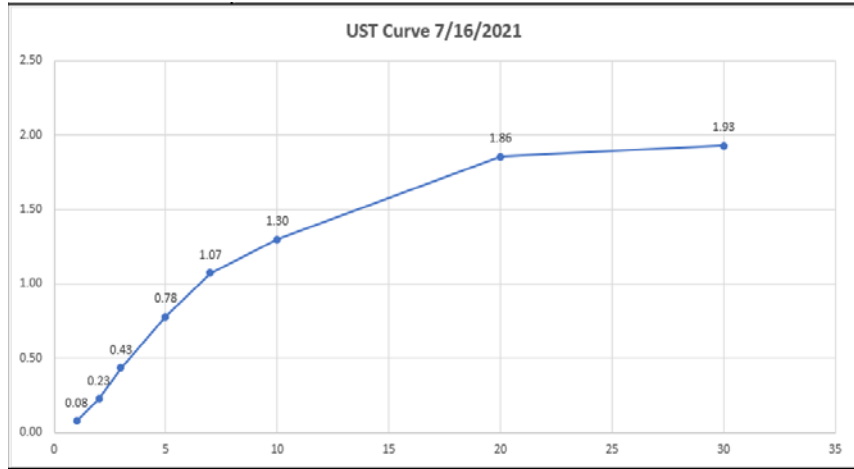
-Ex) FNR 21-43 EC

-1.5x3.0 PAC ~4.5yr in base; 6yr+300

-Usually off of generic 3.0's with slight seasoning (10-15 wala)

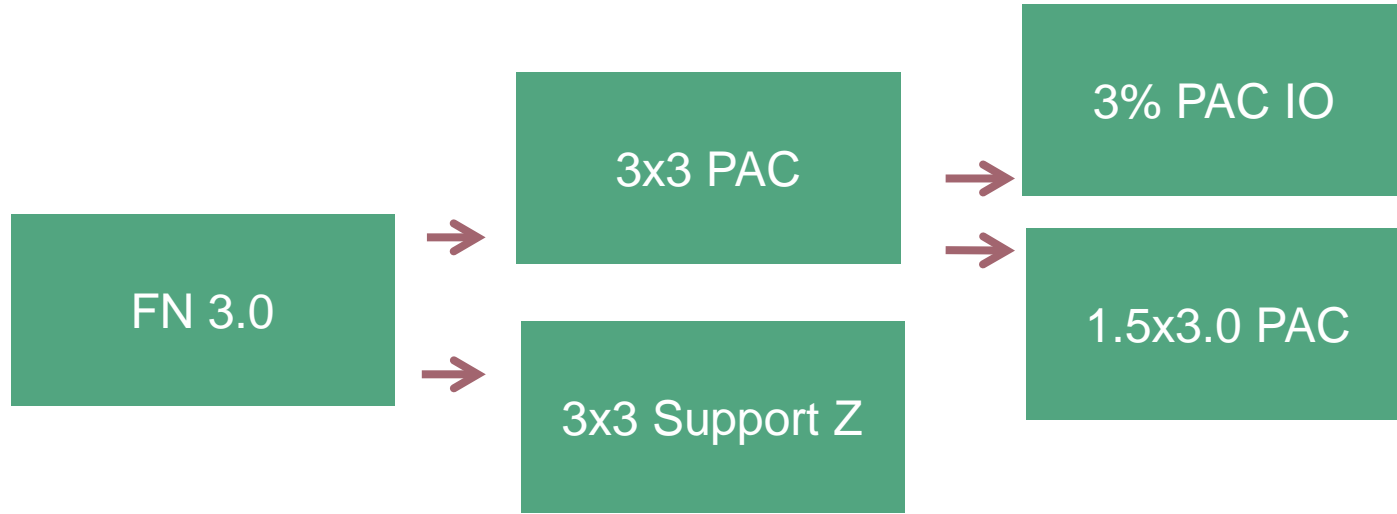
| FNR 21-43 EC Mtge | | | | | | | | | | Yield Table | | | | | | | | | | |
|-------------------|------------|-----------|--------------|------------|------------|------------|-----------|-----------|----------|----------------|---------|------------|--------|--------|--------|------|--------|------|------|----|
| 100% FNCL 3.0 N | | | | | | | | | | As of 07/20/21 | | | | | | | | | | |
| 7/20/21 | 1644P40.3C | 0.4B | 3.867(343)12 | CUSIP | 31360H5B1 | Pool Level | AD,PAC | Coupon | 1.5% | Maturity | 7/25/51 | CA | 23% | 2020 | 10 | | | | | |
| 3Mo | 1786 | 40.3 | 0.3 | 06/30/2021 | 59,137,036 | LTV/HL TV | 77/73 | Accrual | 7/1-7/31 | TX | 7% | 2019 | | | | | | | | |
| 6Mo | 2317 | 45.3 | 0.3 | 07/25/2021 | 58,767,072 | MAXLS | 1,225,000 | Next Pay | 8/25/21 | WA | 6% | | | | | | | | | |
| 12Mo | 2381 | 32.4 | 0.2 | Factor | 0.99374395 | WACLS | 318,661 | Collar | No Band | AZ | 5% | | | | | | | | | |
| Life | 1644 | 40.3 | -- | # Loans | 18,475 | | | | | | | | | | | | | | | |
| Price-to-Yield | | | | | | | | | | | | | | | | | | | | |
| Settle | 07/23/21 | 0 | MED | +300 | MED | +200 | MED | +100 | MED | -100 | MED | -200 | MED | -300 | I | | | | | |
| Vary | 0 | 350 | PSA | 110 | PSA | 128 | PSA | 184 | PSA | 623 | PSA | 778 | PSA | 810 | | | | | | |
| Price | 100-19 1/8 | 1.3462 | | 1.3876 | | 1.3775 | | 1.3611 | | 1.2504 | | 1.1903 | | 1.1 | | | | | | |
| Avg Life | | 4.65 | | 6.37 | | 5.84 | | 5.14 | | 2.84 | | 2.28 | | 2 | | | | | | |
| Mod Duration | | 4.40 | | 5.95 | | 5.48 | | 4.85 | | 2.74 | | 2.22 | | 2 | | | | | | |
| Prin Win | Date | 8/21-2/39 | | 8/21-3/36 | | 8/21-4/35 | | 8/21-4/35 | | 8/21-8/37 | | 8/21-12/33 | | 8/21-5 | | | | | | |
| 1 Spread | | 72 | | 50 | | 57 | | 66 | | 92 | | 95 | | | | | | | | |
| Jul21 | Jun | May | Apr | Mar | Feb | Jan | Dec | Nov | Oct | Sep | Aug | GOV(1) | 6M | 1Y | 2Y | 3Y | 5Y | 7Y | 10Y | 3 |
| 1644P | 1637 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 14:40 | 0.05 | 0.07 | 0.19 | 0.36 | 0.68 | 0.97 | 1.21 | 1. |
| 40.3C | 36.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Disc | 30/360 | * 3Y | 100-01 | 5Y | 100-31 | | | |

Why are so many deals targeting 4yr wal?



- There's a lot of slope in the front part of the curve
- Can create the most i-spread in the 3-4yr part of the curve.
- Later on we'll compare how these look vs. longer pacs (less spread, but more roll) on a total return metric

PAC/SUP Structure



Creating a PAC/SUP Deal

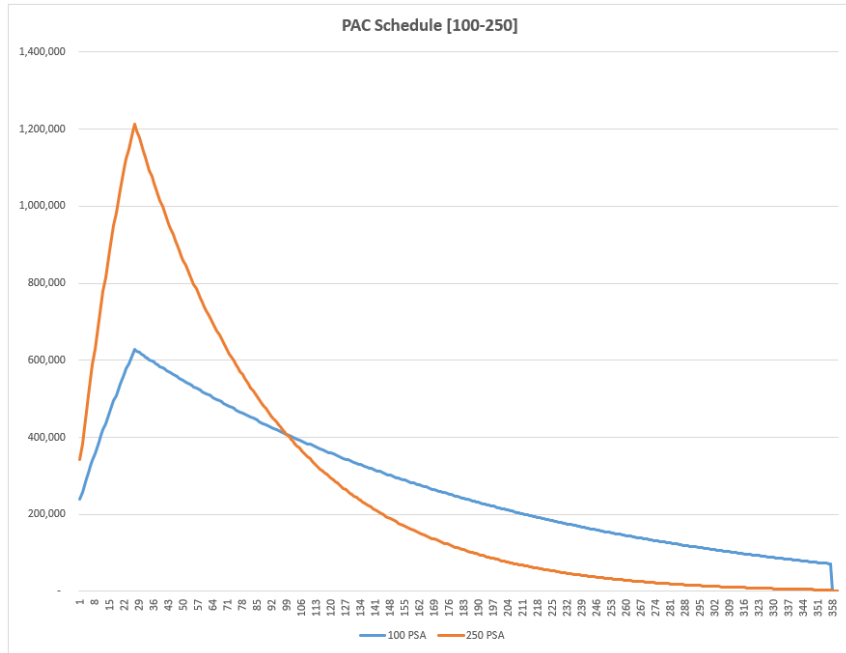
| FN MA4097 Mtge | | | | | | | | | | Actions | | Export | | Settings | | Yield Table | | | | |
|----------------|--------------|-----------|----------|------------|------------|------------|---------------|-----------|-----------|---------|------|---------|--------|----------|--------|-------------|--------|------|------|------|
| 100% FNCL 3 N | 3.859(343)12 | | CUSIP | 31418DR1 | | Pool Level | As of 07/2021 | | | | | | | | | | | | | |
| 7/2021 | 1843P44.2C | 0.9B | Traits | CL | 30/360 | Coupon | 3.0% | Maturity | 8/1/50 | CA | 26% | 2020 | 100% | | | | | | | |
| 3Mo | 1847 | 40.6 | 0.4 | 07/01/2020 | 3.7MM | LIV/HI TV | 77/74 | Accrual | 8/1-8/31 | TX | 8% | 2019 | 0% | | | | | | | |
| 6Mo | 2379 | 45.2 | 0.2 | 07/25/2021 | 2.5MM | MAXLS | 1,250,000 | Next Pay | 9/25/21 | WA | 6% | | | | | | | | | |
| 12Mo | 2418 | 31.5 | 0.2 | Factor | 0.67248421 | WAOLS | 361,638 | | | CO | 5% | | | | | | | | | |
| Life | 2418 | 31.5 | -- | # Loans | 7,998 | | | | | | | | | | | | | | | |
| Price-to-Yield | | | | | | | | | | | | | | | | | | | | |
| Settle | 08/12/21 | 0 MLD | +300 MLD | +200 MLD | +100 MLD | -100 MLD | -200 MLD | -300 MLD | | | | | | | | | | | | |
| Vary | 0 | 347 PSA | 110 PSA | 128 PSA | 184 PSA | 623 PSA | 773 PSA | 810 PSA | | | | | | | | | | | | |
| Price | 104+21 | 1.7945 | 2.4083 | 2.3657 | 2.2277 | 1.0073 | 0.5594 | 0.4167 | | | | | | | | | | | | |
| Avg Life | | | 4.28 | 9.53 | 8.81 | 7.04 | 2.49 | 2.01 | 1.92 | | | | | | | | | | | |
| Mod Duration | | | 3.96 | 7.91 | 7.40 | 6.12 | 2.41 | 1.97 | 1.89 | | | | | | | | | | | |
| Prin Win | Date | 9/21-2/50 | | 9/21-2/50 | 9/21-2/50 | 9/21-2/50 | 9/21-2/50 | 9/21-2/50 | 9/21-2/50 | | | | | | | | | | | |
| I Spread | | | 123 | 122 | 124 | 125 | 72 | 35 | 25 | | | | | | | | | | | |
| Jul21 | Jun | May | Apr | Mar | Feb | Jan | Dec | Nov | Oct | Sep | Aug | Govt(I) | 6M | 1Y | 2Y | 3Y | 5Y | 7Y | 10Y | 30Y |
| 1843P | 1705 | 1998 | 2942 | 3051 | 3311 | 2797 | 1625 | 1745 | 1505 | 1379 | 1971 | 23:46 | 0.04 | 0.07 | 0.20 | 0.36 | 0.68 | 0.97 | 1.21 | 1.87 |
| 44.2C | 37.5 | 40.0 | 53.0 | 48.8 | 46.4 | 33.6 | 16.2 | 14.0 | 9.0 | 5.5 | 3.9 | Disc | 30/360 | 3Y | 100-01 | 5Y | 100-30 | | | |

Goal: Create a 1.5x3.0 PAC backed by Generic 3.0 (4.5yr in the base, 6.5yr +300)

Pool: FN MA4097 – 12 wala Major Pool (3.86/343/12)

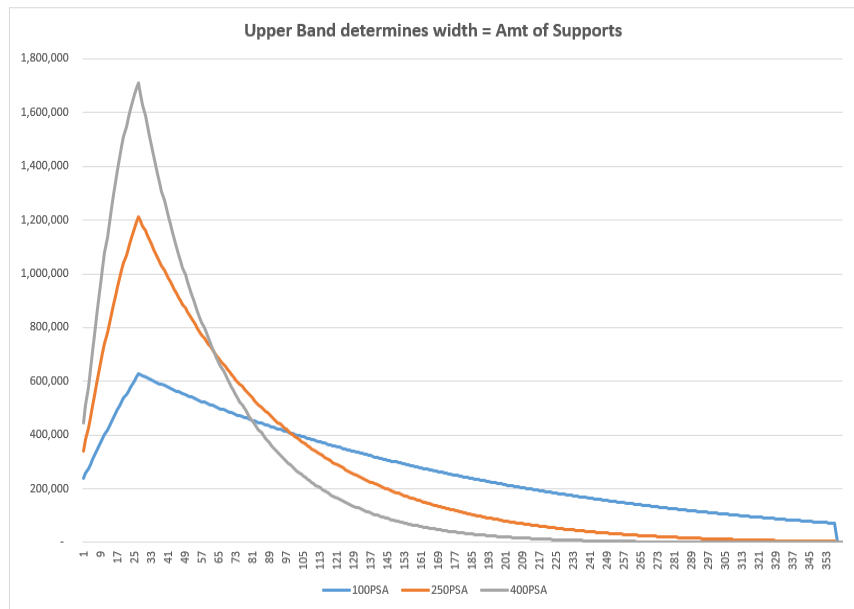
- Decent Starting i-spread (cheaper starting valuation)
- Collateral choice is doing a lot of the work for us. Seasoning and relatively high median speed has the underlying pool already at a 4.3yr, pretty close to our goal of a 4.5yr
- +300 a/l is 9.5yr. We have some work to do there in reducing the extension.
- Next step is to create a PAC with a Support tranche...

How PACS are made? Where to start in which bands to use?



- PACs are made by creating a schedule for the PAC to follow. This schedule is made by picking two “bands” or PSA schedules and taking the minimum of the two schedules at each time period min (Sched 1, Sched 2)
- [100-250] bands shown to the left. If our PAC is the minimum of the two schedules, the ‘leftover’ is our support tranche.
- So where do we start? Notice that the lower band (blue line) is dictating the schedule early on. If we were to raise the lower band from 100PSA to 150PSA what would happen? We would be creating a faster schedule.
-A higher lower band brings down the wal of the PAC.
- The upper band will determine the width of the PAC bands. Wider bands = More Supports

Upper Band



- Look at how much more supports exist when choosing an upper band of 400 vs. an upper band of 250
- More Supports = Better structured PAC, but expensive from a creation standpoint (we'll look at exact numbers in a few slides)
- Wider bands = more support creation

Support Tranche

| FNR 21-43 Z Mtge | | | | | | | | | | Yield Table | | | | | | | | | | |
|------------------|------------|-----------|--------------|------------|------------|------------|-----------|-----------|----------|---------------|---------|-----------|--------|------------|------|---------|------|--------|------|------|
| 100% FNCL 3.0 N | | | | | | | | | | As of 07/2021 | | | | | | | | | | |
| 7/2021 | 1644P40.3C | 0.4B | 3.867(343)12 | CUSIP | 3136BH6A2 | Pool Level | | | | | | | | | | | | | | |
| 3Mo | 1786 | 40.3 | 0.3 | 06/30/2021 | 25,050,988 | LTV/HLTV | 77/73 | Accrual | 7/1-7/31 | TX | 7% 2019 | 0% | | | | | | | | |
| 6Mo | 2317 | 45.3 | 0.3 | 07/25/2021 | 19,839,210 | MAWLS | 1,225,000 | Next Pay | 8/25/21 | WA | 6% | | | | | | | | | |
| 12Mo | 2381 | 32.4 | 0.2 | Factor | 0.7919532 | WACLS | 318,661 | Collar | No Band | AZ | 5% | | | | | | | | | |
| Life | 1644 | 40.3 | -- | # Loans | 18,475 | | | | | | | | | | | | | | | |
| Price-to-Yield | | | | | | | | | | | | | | | | | | | | |
| Settle | 07/26/21 | 0 | MED | +300 | MED | +200 | MED | +100 | MED | -100 | MED | -200 | MED | CF | | | | | | |
| Vary | 0 | 34.7 | PSA | 110 | PSA | 128 | PSA | 184 | PSA | 623 | PSA | 773 | PSA | 40 | CPR | | | | | |
| Price | 100.00 | 2.9179 | | 3.0085 | | 3.0079 | | 3.0037 | | 2.6360 | | 2.5316 | | 2.0997 | | | | | | |
| Avg Life | | 2.58 | | 20.25 | | 19.28 | | 16.49 | | 0.53 | | 0.42 | | 0.22 | | | | | | |
| Mod Duration | | 1.99 | | 19.33 | | 18.32 | | 13.22 | | 0.52 | | 0.41 | | 0.22 | | | | | | |
| Prin Win | Date | 8/21-4/50 | | 3/36-4/50 | | 1/35-4/50 | | 8/21-4/50 | | 8/21-7/22 | | 8/21-4/22 | | 8/21-12/21 | | | | | | |
| I Spread | | 262 | | 122 | | 126 | | 141 | | 259 | | 249 | | 206 | | | | | | |
| Jul21 | Jun | May | Apr | Mar | Feb | Jan | Dec | Nov | Oct | Sep | Aug | GOVT(1) | 6M | 1Y | 2Y | 3Y | 5Y | 7Y | 10Y | 30Y |
| 1644P | 1637 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1:26 | 0.04 | 0.07 | 0.20 | 0.36 | 0.68 | 0.97 | 1.21 | 1.87 |
| 40.3C | 36.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Disc | 80/360 | F | 2Y | 99-27.1 | 3Y | 100-01 | | |

- We can structure the support tranche in many ways (floater/inv etc) but in most basic form we have choice between a support payer or sup Z.
- Support backing this deal is FNR 21-43 Z. A full coupon (3x3) Support Z. Support buyers want paydowns to keep their bond short and avoid extension.
- Support tranches receive the excess cashflow above and beyond the corresponding PAC schedule. **Support buyers want the lower PAC band to be as low as possible, all else equal.**
- Generally we create PACs with an upper band lower than the median PSA (347 PSA to left). If we created PAC bands that included the median PSA, we would create longer supports. (We'll talk about times we can ignore this)

PAC Band Trade-off/Considerations

| FNR 21-43 Z Mtge | | | | | | | | | | | | Yield Table | | | | | | | | | |
|-----------------------------------|------------|-----------|--------------|------------|------------|------------|-----------|-----------|----------|-----------|-----|---------------|--------|------------|------|---------|------|--------|------|------|--------|
| 100% FNCL 3.0 N | | | | | | | | | | | | As of 07/2021 | | | | | | | | | |
| 7/2021 | 1644P40.3C | 0.4B | 3.867(343)12 | CUSIP | 31368H6A2 | Pool Level | | | | | | | | | | | | | | | |
| 3Mo | 1786 | 40.3 | 0.3 | 06/30/2021 | 25,050,988 | LTV/HLTV | 77/73 | Accrual | 7/1-7/31 | TX | 7% | 2019 | 0% | | | | | | | | |
| 6Mo | 2317 | 45.3 | 0.3 | 07/25/2021 | 19,839,210 | MAWLS | 1,225,000 | Next Pay | 8/25/21 | WA | 6% | | | | | | | | | | |
| 12Mo | 2381 | 32.4 | 0.2 | | | Factor | 0.7919532 | WACLS | | | | | | | | | | | | | |
| Life | 1644 | 40.3 | -- | | | # Loans | 18,475 | | | | | | | | | | | | | | |
| I Price-to-Yield | | | | | | | | | | | | | | | | | | | | | |
| Settle | 07/26/21 | 0 | MED | +300 | MED | +200 | MED | +100 | MED | -100 | MED | -200 | MED | | | | | | | | CF |
| Vary | 0 | .347 | PSA | 110 | PSA | 128 | PSA | 184 | PSA | 623 | PSA | 773 | PSA | | | | | | | | 40 CPR |
| Price | 100-00 | 2.9179 | | 3.0085 | | 3.0079 | | 3.0037 | | 2.6360 | | 2.5316 | | | | | | | | | 2.0997 |
| Avg Life | | | | | | | | | | | | | | | | | | | | | |
| | | 2.58 | | 20.25 | | 19.28 | | 16.49 | | 0.53 | | 0.42 | | | | | | | | | 0.22 |
| Mod Duration | | 1.99 | | 19.33 | | 18.32 | | 13.22 | | 0.52 | | 0.41 | | | | | | | | | 0.22 |
| Prin Win Date | | 8/21-4/50 | | 3/36-4/50 | | 1/35-4/50 | | 8/21-4/50 | | 8/21-7/22 | | 8/21-4/22 | | 8/21-12/21 | | | | | | | |
| I Spread | | 262 | | 122 | | 126 | | 141 | | 259 | | 249 | | 206 | | | | | | | |
| Govt(1) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30Y | | | | | | | | | | | | | | | | | | | | | |
| Jul21 | Jun | May | Apr | Mar | Feb | Jan | Dec | Nov | Oct | Sep | Aug | Jul | Jun | May | Apr | Mar | Feb | Jan | Dec | Nov | Oct |
| 1644P | 1637 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1:26 | 0.04 | 0.07 | 0.20 | 0.36 | 0.68 | 0.97 | 1.21 | 1.87 | |
| 40.3C | 36.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | Disc | 80/360 | F | 2Y | 99-27.1 | 3Y | 100-01 | | | |

- Now we have some general guidelines to follow and recognize tradeoffs between components.
- Supports are 'expensive' to use so we want to minimize their creation. To do so involves using higher bands for the PAC. But the support buyer wants lower bands to receive as much principal as quickly as possible.

Bloomberg Demo [200-300] PAC

| STRU PTC-7693 PA Mtg | | | | | | | | | | Deal Summary | |
|----------------------|---------------------|--------------|----------|-----------------|---------------|------------|-------|------------------|-------|-----------------|--|
| S 100% FNCL 3.0 N | | 3.859(342)13 | | CUSIP BCCXGXIA7 | | Pool Level | | | | | |
| Orig Amt | | 100,000,000 | | Orig Speed | | 350 PSA | | 50 Group 1 Loans | | | |
| Priced | | MIXED | | 1 mo Hist | | | | | | | |
| Dated | | 08/01/2021 | | Default | | 347 PSA | | B.Median | | Orig 08/01/2021 | |
| Settled | | 08/30/2021 | | PAC % | | SUP/PAC % | | SUP % Other % | | WAC 3.859 3.859 | |
| First Pay | | 09/25/2021 | | Orig | | 100.0 | | WAM | | 28y 07m 28y 06m | |
| 08/21 Amt | | 100,000,000 | | Curr | | 100.0 | | Age | | 01y 00m 01y 01m | |
| CF Class | Tranche Description | Cpn | Orig Mtg | Curr(000) | Original(000) | Factor | OWAL | Curr Band | As Of | | |
| 1) Y PA | -- | 1.500 | -- | 88,197 | 88,197 | 1.0000 | 4.615 | 200-300 | 08/21 | | |
| 2) Y PI | IO, NTL | 3.000 | -- | 44,099 | 44,099 | 1.0000 | 4.615 | 200-300 | 08/21 | | |
| 3) Y Z | Z | 3.000 | -- | 11,803 | 11,803 | 1.0000 | 1.088 | -- | -- | | |

Comparing [200-300] vs. [150-300] PAC

| STRU PTC-7693 PA Mtop | | | | | | | | | | Yield Table | | | | | | | | | |
|-----------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--------------------------------------|--|--|--|--|--|--|--|--|--|
| 100A FNCL 3.0 N | | | | | | | | | | As of 08/20/21 | | | | | | | | | |
| 8/20/21 1843P44.2C 0.9B | | | | | | | | | | 3.859(342)13 CUSIP BCCGX0A7 200Level | | | | | | | | | |
| Coupon 1.5% Maturity -- CA 268 2020 100% | | | | | | | | | | | | | | | | | | | |
| 3Mo 1847 40.6 0.4 08/30/2021 88,197,224 LTV/HLTV -- / -- Accrual 8/1 8/31 TX 8% 2019 0% | | | | | | | | | | | | | | | | | | | |
| 6Mo 2379 45.2 0.2 08/25/2021 88,197,224 MAXLS 1,250,000 Next Pay 9/25/21 WA 6% | | | | | | | | | | | | | | | | | | | |
| 12Mo 2418 31.5 0.2 Factor 1.0 WACLS -- Collar 200-300 CO 5% | | | | | | | | | | | | | | | | | | | |
| Life -- -- -- # Loans -- -- -- | | | | | | | | | | | | | | | | | | | |
| Settle 08/30/21 | | | | | | | | | | Price-to-Yield | | | | | | | | | |
| 0 MED +300 MED +200 MED +100 MED -100 MED -200 MED -300 MED | | | | | | | | | | | | | | | | | | | |
| Vary 0 347 PSA 110 PSA 128 PSA 184 PSA 623 PSA 773 PSA 810 PSA | | | | | | | | | | | | | | | | | | | |
| Price 100.00 1.4818 1.4891 1.4879 1.4847 1.4663 1.4573 1.4550 | | | | | | | | | | | | | | | | | | | |
| Avg Life 4.65 6.96 6.43 5.36 2.71 2.18 2.07 | | | | | | | | | | | | | | | | | | | |
| Mod Duration 4.36 6.42 5.95 4.99 2.60 2.11 2.01 | | | | | | | | | | | | | | | | | | | |
| Prin Min Date 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-1/50 | | | | | | | | | | | | | | | | | | | |
| Spread 80 45 53 69 113 121 123 | | | | | | | | | | | | | | | | | | | |
| Aug21 Jul Jun May Apr Mar Feb Jan Dec Nov Oct Sep GOV(1) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30Y | | | | | | | | | | | | | | | | | | | |
| -P 1843 -- -- -- -- -- -- -- -- -- 14:41 0.05 0.07 0.21 0.39 0.73 1.04 1.29 1.94 | | | | | | | | | | | | | | | | | | | |
| -C 44.2 -- -- -- -- -- -- -- -- -- Disc 307,350 @ 3Y 99(31) 5Y 100(22) | | | | | | | | | | | | | | | | | | | |

[200-300]

- Shorter base avg life
- Less Supports
- Longer avg life +300

| STRU PTC-7694 CA Mtop | | | | | | | | | | Yield Table | | | | | | | | | |
|-----------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--------------------------------------|--|--|--|--|--|--|--|--|--|
| 100A FNCL 3.0 N | | | | | | | | | | As of 08/20/21 | | | | | | | | | |
| 8/20/21 1843P44.2C 0.9B | | | | | | | | | | 3.859(342)13 CUSIP BCCGX0D1 200Level | | | | | | | | | |
| Coupon 1.5% Maturity -- CA 268 2020 100% | | | | | | | | | | | | | | | | | | | |
| 3Mo 1847 40.6 0.4 08/30/2021 81,006,704 LTV/HLTV -- / -- Accrual 8/1 8/31 TX 8% 2019 0% | | | | | | | | | | | | | | | | | | | |
| 6Mo 2379 45.2 0.2 08/25/2021 81,006,704 MAXLS 1,250,000 Next Pay 9/25/21 WA 6% | | | | | | | | | | | | | | | | | | | |
| 12Mo 2418 31.5 0.2 Factor 1.0 WACLS -- Collar 150-300 CO 5% | | | | | | | | | | | | | | | | | | | |
| Life -- -- -- # Loans -- -- -- | | | | | | | | | | | | | | | | | | | |
| Settle 08/30/21 | | | | | | | | | | Price-to-Yield | | | | | | | | | |
| 0 MED +300 MED +200 MED +100 MED -100 MED -200 MED -300 MED | | | | | | | | | | | | | | | | | | | |
| Vary 0 347 PSA 110 PSA 128 PSA 184 PSA 623 PSA 773 PSA 810 PSA | | | | | | | | | | | | | | | | | | | |
| Price 100.00 1.4830 1.4872 1.4861 1.4851 1.4685 1.4600 1.4578 | | | | | | | | | | | | | | | | | | | |
| Avg Life 4.91 6.15 5.77 5.48 2.87 2.31 2.20 | | | | | | | | | | | | | | | | | | | |
| Mod Duration 4.60 5.70 5.37 5.10 2.76 2.24 2.13 | | | | | | | | | | | | | | | | | | | |
| Prin Min Date 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-2/50 9/21-1/50 | | | | | | | | | | | | | | | | | | | |
| Spread 78 57 63 67 110 119 121 | | | | | | | | | | | | | | | | | | | |
| Aug21 Jul Jun May Apr Mar Feb Jan Dec Nov Oct Sep GOV(1) 6M 1Y 2Y 3Y 5Y 7Y 10Y 30Y | | | | | | | | | | | | | | | | | | | |
| -P 1843 -- -- -- -- -- -- -- -- -- 14:42 0.05 0.07 0.21 0.39 0.73 1.04 1.29 1.93 | | | | | | | | | | | | | | | | | | | |
| -C 44.2 -- -- -- -- -- -- -- -- -- Disc 307,350 @ 3Y 99(31) 5Y 100(22) | | | | | | | | | | | | | | | | | | | |

[150-300]

- Longer base avg life
- More Supports/Less PACS
- Shorter avg life +300

Comparing [200-300] vs. [150-300] backed Supports

STRU PTC-7693 Z Mtge

| Settle | 08/30/21 | 0 MED | +300 MED | +200 MED | +100 MED | -100 MED | -200 MED | -300 MED |
|--------------|----------|------------|------------|-----------|-----------|-------------|-----------|-----------|
| Vary | 0 | 347 PSA | 110 PSA | 128 PSA | 184 PSA | 623 PSA | 773 PSA | 810 PSA |
| Price | 100-00 | 2.8325 | 3.0088 | 3.0082 | 3.0052 | 2.5475 | 2.3995 | 2.3659 |
| Avg Life | | 1.11 | 20.97 | 19.84 | 15.94 | 0.43 | 0.33 | 0.31 |
| Mod Duration | | 1.07 | 20.03 | 18.82 | 14.63 | 0.42 | 0.32 | 0.31 |
| Prin Win | Date | 9/21-10/23 | 11/36-2/50 | 5/35-2/50 | 1/30-2/50 | 9/21-6/22 | 9/21-3/22 | 9/21-3/22 |
| Spread | | 228 | 115 | 115 | 137 | 250 | 235 | 232 |
| Aug 21 | Jul | Jun | May | Apr | Mar | Jan | Dec | Nov |
| --P 1843 | -- | -- | -- | -- | -- | -- | -- | -- |
| --C 44.2 | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | 14.42 | 0.05 | 0.07 |
| | | | | | | 0.21 | 0.39 | 0.73 |
| | | | | | | 1.04 | 1.29 | 1.94 |
| | | | | | | Disc 10/360 | 1 Y | 0.02 |
| | | | | | | | 2Y | 99-27 |

STRU PTC-7694 ZB Mtge

| Settle | 08/30/21 | 0 MED | +300 MED | +200 MED | +100 MED | -100 MED | -200 MED | -300 MED |
|--------------|----------|-----------|------------|------------|-----------|-------------|-----------|-----------|
| Vary | 0 | 347 PSA | 110 PSA | 128 PSA | 184 PSA | 623 PSA | 773 PSA | 810 PSA |
| Price | 100-00 | 2.8630 | 3.0073 | 3.0063 | 2.9997 | 2.6747 | 2.5776 | 2.5546 |
| Avg Life | | 1.33 | 18.67 | 17.46 | 13.34 | 0.59 | 0.46 | 0.44 |
| Mod Duration | | 1.28 | 17.35 | 16.00 | 10.45 | 0.58 | 0.45 | 0.43 |
| Prin Win | Date | 9/21-5/24 | 10/32-2/50 | 12/30-2/50 | 9/21-2/50 | 9/21-9/22 | 9/21-6/22 | 9/21-6/22 |
| Spread | | 274 | 122 | 129 | 151 | 262 | 253 | 251 |
| Aug 21 | Jul | Jun | May | Apr | Mar | Jan | Dec | Nov |
| --P 1843 | -- | -- | -- | -- | -- | -- | -- | -- |
| --C 44.2 | -- | -- | -- | -- | -- | -- | -- | -- |
| | | | | | | 14.43 | 0.05 | 0.07 |
| | | | | | | 0.21 | 0.39 | 0.73 |
| | | | | | | 1.04 | 1.29 | 1.93 |
| | | | | | | Disc 10/360 | 1 Y | 0.02 |
| | | | | | | | 2Y | 99-27 |

[200-300]

- Narrower Bands = less supports
- Shorter base a/l

[150-300]

- Wider bands = more supports, longer base a/l
- Lower band is lower (150 vs. 200). At +100 med, 184 PSA is above the lower band of 150 so principal gets diverted to supports faster than [200-300]

Let's talk Levels

| | Input |
|------------------------|-------------|
| | Calculation |
| Pool | FN MA4097 |
| Collateral Px | 104.421875 |
| Payup | 0.25 |
| Collateral Settle | 8/12/2021 |
| Deal Settle | 8/30/2021 |
| Fees (tics) | 3 |
| Financing Rate | 0.20 |
| Collateral Coupon | 3.0 |
| Carry | 0.15 |
| Collateral | 104.77 |
| Financing | 0.010 |
| Collateral Deal Settle | 104.6261 |

[200-300]

| Bond | yb ticker |
|------------------|--------------|
| STRU PTC-7693 PA | pt7693stpa) |
| STRU PTC-7693 Z | pt7693st(z) |
| STRU PTC-7693 PI | pt7693st(pi) |

[150-300]

| Bond | yb ticker |
|------------------|--------------|
| STRU PTC-7694 CA | pt7694st(ca) |
| STRU PTC-7694 ZB | pt7694st(zb) |
| STRU PTC-7693 CI | pt7694st(ci) |

- First we solve for the Deal Settle Price. This is the collateral px (inclusive of any payup + fees) minus carry plus funding from the collateral settle date to the Deal Settle date.
- Carry = Coupon \times (8/30-8/12)/360
- Highlighted in Yellow are required Inputs
- Highlighted in Grey are calculations
- Create Structures on a Platform like Intex or Yieldbook/Bloomberg to be able to run bonds. YB tickers to the left as well as corresponding STRUs work.

Calculate Arb/Creation

| | Size | Pct | Coupon | Price | Coupon | |
|-----------------|------------------------|------|--------|-----------|------------------|-----------------|
| [200-300] | Collateral 100,000,000 | 100 | 3.0 | 104.62610 | | |
| | PAC 88,197,224 | 88.2 | 3.0 | 105.22845 | STRU PTC-7693 PA | 1.5 PAC 100.80 |
| STRU PTC-7693 Z | Z 11,802,776 | 11.8 | 3.0 | 100.12500 | STRU PTC-7693 PI | 3.0 IO 8.859375 |

| | Size | Pct | Coupon | Price | Coupon | |
|------------------|------------------------|------|--------|-----------|------------------|----------------|
| [150-300] | Collateral 100,000,000 | 100 | 3.0 | 104.62610 | | |
| | PAC 81,006,704 | 81.0 | 3.0 | 105.68146 | STRU PTC-7694 CA | 1.5 PAC 100.90 |
| STRU PTC-7694 ZB | Z 18,993,296 | 19.0 | 3.0 | 100.12500 | STRU PTC-7694 CI | 3.0 IO 9.5625 |

- Take the Deal Settle Collateral Px (104.62610). Input a Support Z Px (100-04). Solve for the 3x3 PAC. (105.23 vs. 105.68). The [150-300] pac has more supports priced ~par bringing the total px of the PAC up.

- Once you have the 3x3 PAC, Input an IO px (250oas v99 used in left example)

- Left with creation on our 1.5x3.0 PAC (blue)

[200-300] 1.5x3.0 PAC created ~62//

[150-300] 1.5x3.0 PAC created ~56//

Comparing our Two Structures

[200-300]

| Bond | yb ticker | Px | ispd | oas | Edur | Ecvx |
|------------------|--------------|---------|------|-----|------|-------|
| STRU PTC-7693 PA | pt7693stpa) | 100-25+ | 62 | -47 | 3.03 | -3.92 |
| STRU PTC-7693 Z | pt7693st(z) | 100-04 | | 14 | | |
| STRU PTC-7693 PI | pt7693st(pi) | 8-27+ | | 250 | | |

[150-300]

| Bond | yb ticker | Px | ispd | oas | Edur | Ecvx |
|------------------|--------------|---------|------|-----|------|-------|
| STRU PTC-7694 CA | pt7694st(ca) | 100-28+ | 56 | -49 | 2.99 | -1.94 |
| STRU PTC-7694 ZB | pt7694st(zb) | 100-04 | | 107 | | |
| STRU PTC-7693 CI | pt7694st(ci) | 9-18 | | 250 | | |

Contact

- Contact Sales or IB/Email me for a copy of the Arb spreadsheet
- Will delve a bit more into the IO pricing in our next video.

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